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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,764	03/22/2004	Walter E. Butterfield	3073-02	2439

37101 7590 12/21/2004

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EXAMINER	
VALENTI, ANDREA M	

ART UNIT	PAPER NUMBER
3643	

DATE MAILED: 12/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/806,764	BUTTERFIELD ET AL.	
	Examiner	Art Unit	
	Andrea M. Valenti	3643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1, 2, 4-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 4-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because of the use of legal phraseology 'said'. Correction is required. See MPEP § 608.01(b).

Claim Objections

Claims 4-13 are objected to because of the following informalities:

Claim 3 is missing and has thrown off the numbering of the remaining claims. Applicant skips from claim 2 to claim 4.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 8-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites the limitation "said nutrient" in line2. There is insufficient antecedent basis for this limitation in the claim.

Claims 9-12 are rejected as being dependent upon a rejected base claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2-6 and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent JP 06038643 to Iwamura in view of U.S. Patent No. 6,615,542 to Ware.

Regarding Claims 1 and 8, Iwamura teaches a plant growth system and method comprising: a reservoir (Iwamura Fig. 1 #11, 25, 35); a Pump (Iwamura Fig. 1 #14); a volume of liquid based nutrient composition; a plurality of stacked independent growing chambers arranged in a planar array (Iwamura Fig. 1 #$40_{1\text{-}13}$ and Fig. 4 #40_5, each of said growing chambers comprising a container (Iwamura Fig. 2 #56) portion with a base and sides, an inflow/outflow gate (Iwamura Fig. 2 #41 and 42) accommodated in the base of said container portion, an overflow gate (Iwamura Fig. 2 #52-53) accommodated within said container portion; and drainage plumbing connecting said

container portion with said reservoir; wherein each of said growing chambers accommodates one or more plant holding containers (Iwamura #70); and wherein when said pump is activated, said pump transports said nutrient composition from the reservoir through the inflow/outflow gate into said growing chambers; and wherein when one of said growing chambers becomes flooded to the level of said overflow gate, said overflowing nutrient composition is returned to said reservoir via said drainage plumbing, and wherein when said pump is deactivated, said nutrient composition remaining in each growing chamber returns to the reservoir via the inflow/outflow gate (Iwamura Fig. 1).

Iwamura is silent on the overflow gate being a height adjustable overflow gate. However, it would have been obvious to one of ordinary skill in the art to modify the teachings at the time of the invention to accommodate different plant variety water needs. [*In re Stevens*, 212 F.2d 197, 198, 101 USPQ 284, 285 (CCPA 1954)].

Iwamura as modified is silent on a vertically positioned source of light and the chambers arranged around the light source. However, Ware teaches a hydroponic system in which the growth chambers are positioned around a vertical light source (Ware Fig. 3 #44). It would have been obvious to one of ordinary skill in the art to modify the teachings of Iwamura with the teachings of Ware at the time of the invention since a light source is an old and notoriously well-known means for promoting plant growth configured in a spaced efficient configuration.

Regarding Claims 2 and 9, Iwamura as modified teaches a plurality of said vertically positioned sources of light (Ware Fig. 3 #44).

Regarding Claims 4 and 10, Iwamura as modified teaches growing chamber is comprised primarily of a polyethylene material (Ware Col. 7 line 35).

Regarding Claims 5 and 11, Iwamura as modified teaches the inflow/outflow gate is a plurality of inflow/outflow gates (Iwamura Fig. 1 #42).

Regarding Claims 6 and 12, Iwamura as modified teaches the overflow gate is a plurality of overflow gates (Iwamura Fig. 1 and Fig. 2 #51-53).

Claims 7 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent JP 06038643 to Iwamura in view of U.S. Patent No. 6,615,542 to Ware as applied to claim 1 above, and further in view of U.S. Patent No. 4,006,559 to Carylon.

Regarding Claims 7 and 13, Iwamura as modified is silent on the pump is activated and deactivated by a timer. However, Carylon teaches an irrigation system with a pump and timer (Carylon Fig. 1 #82). It would have been obvious to one of ordinary skill in the art to further modify the teachings of Iwamura at the time of the invention for the labor efficient advantage of the system being self-operating.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

New Zealand Patent NZ 299946A; U.S. Patent No. 5,887,383; U.S. Patent No. 5,394,647; U.S. Patent No. 5,146,709; U.S. Patent No. 4,630,394; U.S. Patent No. 5,385,590; U.S. Patent No. 6,247,268; U.S. Patent No. 6,219,966; U.S. Patent No.

5,860,247; U.S. Patent No. 5,337,515; U.S. Patent No. 4,302,906; U.S. Patent No. 4,255,896; U.S. Patent No. 5,307,589.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrea M. Valenti whose telephone number is 703-305-3010. The examiner can normally be reached on 7:30am-5pm M-F; Alternating Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter M. Poon can be reached on 703-308-2574. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Andrea M. Valenti
Patent Examiner
Art Unit 3643

14 December 2004

Peter M. Poon
Supervisory Patent Examiner
Technology Center 3600